

**HIEs and Public Health: A Powerful Partnership**

Knowledge of disease trends and other threats to health within a community can influence medical care provider decisions and the advice given to patients. Providers benefit from timely, population-based information – information that public health could provide in every community. As an active participant in health information exchanges, public health

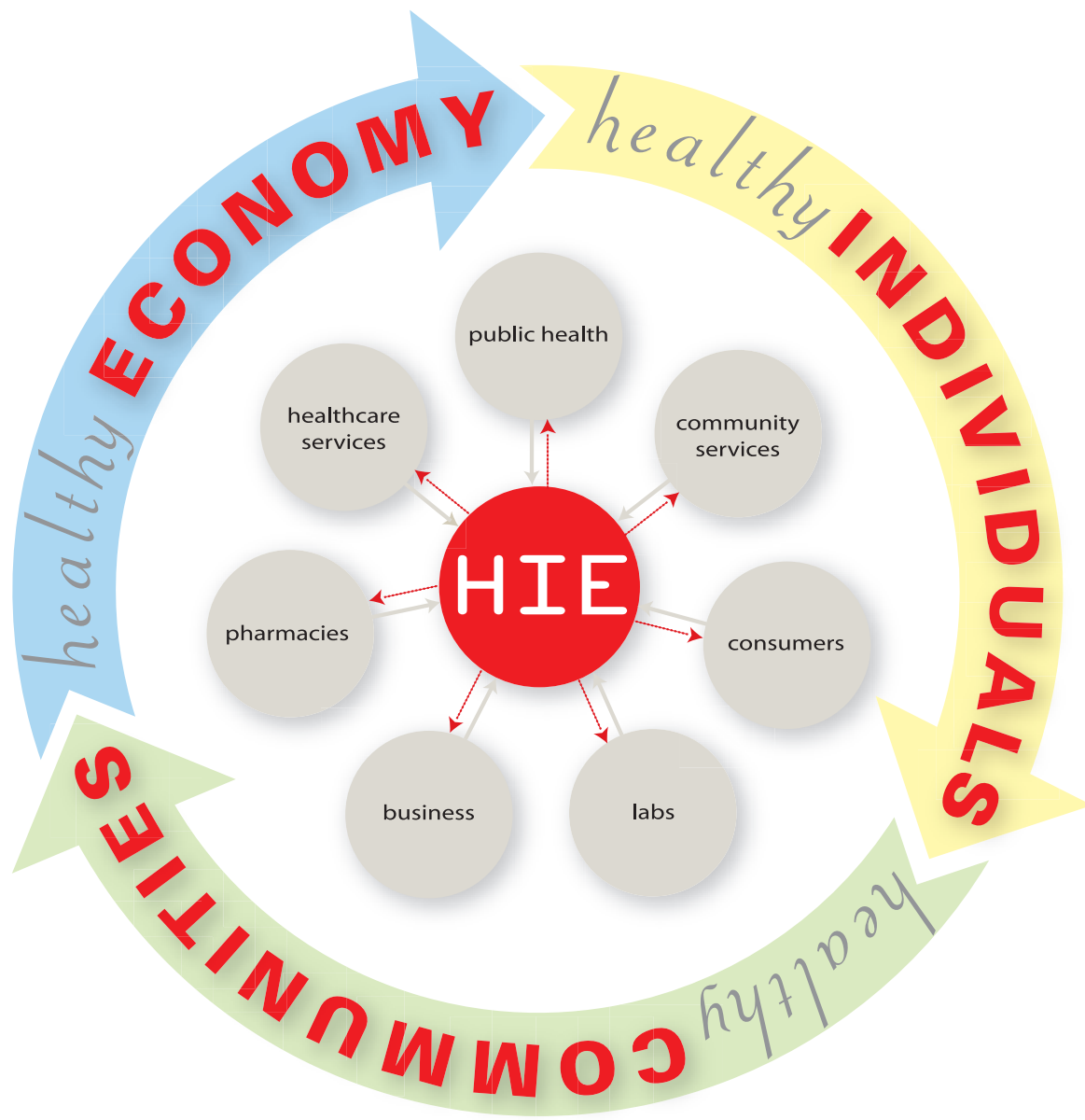
has an opportunity to fulfill this role and become an active partner in the overall health of the community.

“Our whole community and our ability to deliver health care lies in keeping industry here, keeping jobs here; you’ve got to have healthy people. No one player alone can fix this. We’re all knitted together. All (stakeholders) are pulling together. These are the ties that bind, tying industry into the community’s health.”

– Liesa Jenkins, CareSpark  
Kingsport, Tennessee

**HIEs as ‘Infomediaries’**

Health information exchanges or regional health information organizations (HIEs or RHIOs) have emerged as vehicles to facilitate the flow of clinical information between providers. — de Brantes, et.al, *Journal of Healthcare Information Management*, Vol.21, No. 1



*When we create meaning from data and then share that data, as is done in successful HIEs, we move from transactions to action – and improve the health of the community. Ultimately, individuals benefit. In fact, all stakeholders benefit, and the healthy, symbiotic cycle continues, with healthy individuals populating healthy communities that support healthy economies.*

**Aiming for Better Health** In an ideal world, health care providers have complete patient information at their fingertips, and treatments are determined using up-to-date decision-support guidelines. In such an environment, the patient benefits and community health metrics improve. To attain this ideal state, we’ve chosen to focus on five opportunities for health transformation driven by the collaboration inherent in HIEs. These “worthy aims” demonstrate how HIEs, with public health participation, can facilitate improved individual and community health care. The worthy aims are not intended to be all-encompassing, but instead to offer examples of critical benefits to the key stakeholders when public health is an active partner in the HIE. These aims are based on examples contributed by public health leaders and practitioners, as well as HIE administrators.

Worthy Aim	Worthy Aim	Worthy Aim	Worthy Aim	Worthy Aim
Physicians have easy access to all patient-specific information that is housed by public health.	Eliminate unnecessary emergency department admissions for chronic conditions.	Physicians are fully informed about the health threats in their communities.	Physicians are able to prescribe the most effective antibiotic for a patient’s condition.	Physicians are able to easily report all notifiable diseases and conditions.
Public health offers valuable and timely individual health information organized in a range of information systems. For example, immunization, newborn dried blood spot, hearing, and lead screening systems contain information important to physicians providing care to children. In addition, environmental and health surveillance systems also contain information that could guide medical care for an individual. Many health departments link their internal information systems. This provides easy access to integrated comprehensive information on a specific individual. Rhode Island’s KIDSNET provides a good example of a confidential, computerized child health information system. The State uses KIDSNET to serve families, pediatric providers, and public health programs, including the child immunization program. In most communities, this information is available; electronic linkages and partnerships can make it all work together.	With public health, hospitals, and health care organizations working together to monitor and track trends in emergency department use, health-care providers would be able to detect where targeted case management and other interventions could reduce or eliminate admissions. Ann Kitchen of the Indigent Care Collaboration in Austin, Texas, notes: “We can demonstrate that timely utilization of data, coupled with a deliberate approach to care management and coordination, has helped reduce emergency room visits and ER costs, thereby reducing overall costs and improving patient care. Public health and other partners make this possible by having targeted information readily available for primary and secondary prevention.”	When public health departments offer timely and geographically specific information to HIEs, they enable physicians to examine patients in terms of a community’s major health threats, such as heart disease, asthma, obesity, or low birth weight. Public health can help identify these issues and inform providers, opening opportunities for early intervention. The Institute for Urban Family Health in New York City collaborates with hospitals and the Department of Health and Mental Hygiene to provide care to underserved urban populations. The health department notifies the Institute of potential health threats in its community, and physicians help identify patients at risk from communicable disease threats. “Even as physicians practicing in large groups, we have no means to monitor outbreaks of disease in the community to help inform our diagnostic and treatment decisions,” says Dr. Neil Calman, Director of the Institute. “By having information in hand quickly [from public health], we are able to have a very real impact on the care we give to individuals, on their health, and ultimately on the health of the community.”	Antibiotic drug resistance is a growing health care concern. Dr. Calman tells of a scenario in which area public health entities reported not only the outbreak of a specific disease in his area, but also which antibiotic had proven most effective in combating the outbreak. The efficiency of information exchange allowed him to treat patients without the delay and risks of a trial-and-error approach. Connecting public health surveillance more directly and efficiently to health care providers, ancillary providers, and patients through an HIE opens a door to more timely detection of antibiotic resistance in specific geographic locales. This approach also provides an avenue for regular updates about public health recommendations for preferred therapies.	Today, most communities know only a fraction of their reportable disease burden. This is due partly to arcane, paper-based processes and the infrequent encounters physicians typically have with these diseases. Nonetheless, the spread and effect of infectious agents adds to the cost of illness, a cost borne invisibly by many communities. The capacity of the HIE to automatically send a report electronically to public health from clinical laboratories and physician electronic systems, can relieve the burden of paper reporting from practicing physicians. HIEs offer hope that public health authorities and health care providers can work together to benefit the health of individuals and the community through full and timely reporting of all such diseases.
<b>Symbiosis of health care and economics</b>				
Sustained economic hardship leads to poorer physical, psychological, and cognitive functioning. Results demonstrate strong, consistent, graded associations between sustained economic hardships from 1965 to 1983 and reduced physical, psychological, and cognitive functioning in 1994. The associations were not greatly attenuated after adjustment for risk factors or prevalent diseases... – <i>New England Journal of Medicine</i> , 1997;337:1889-95				
<b>“The purpose of KIDSNET is to help make sure that all children in Rhode Island are as healthy as possible by getting the right health screening and preventive care at the right time. By providing physicians with this information in an easy-to-access, comprehensive system, we can better inform the health care delivery decisions they make for the children in their practices.”</b> – Amy Zimmerman, Director, RI Health Information Exchange, a project of the Rhode Island Department of Health				

**a call to partnership**

The health of a community is a shared responsibility – greater than the responsibility of public health agencies alone. Working in close partnership with health care providers and other organizations, public health agencies can more fully realize the potential to improve health outcomes, improve health care access, and reduce health care costs. To accomplish these partnerships toward better health, worthy aims, such as ensuring ready provider access to public health information, should become a component of the HIE agenda in every participating community.

Each HIE will have its own goals. No doubt, a few key worthy aims will surface in any community that embraces an HIE. The worthy aims detailed here provide fundamental examples that address some of the most pressing issues facing community health. Many more worthy aims exist.

In ways illustrated by the worthy aims, HIEs should move from treating health care as an encounter-based service facilitated by timely information to one of facilitating longitudinal care that improves patient outcomes, protects patient safety, and initiates opportunities for improved disease prevention and health promotion programs.

**A key value** of an HIE is to improve individual health outcomes by providing access to more complete information. Public health can provide population-based information, health-care management resources, and social service contacts that can assist physicians in making treatment decisions and help ensure that their patients receive all appropriate services. By partnering with public health in the information exchange, the HIE is better informed about community health threats, opportunities to reduce emergency room use, treatment options for patients with communicable diseases, and resources to better manage chronic disease care. Partnering with public health increases the potential for improving the health of individuals and the community.

When public health is an active partner, the HIE also benefits from potential savings in time, medical procedures, and duplication of effort, as well as the use of community health data by private physicians. Additionally, interoperability and data exchange will have some economic advantage to key players.

To date, determining the real value gained through the systemized sharing of data to assess community health status and the use of population-based information to improve clinical-decision support has been based on limited input and educated estimates. While the role and structure of HIEs is evolving, the quantitative data on which to base cost-benefit analysis is limited to case examples brought by various HIE coordinators. More specific analyses will be quantifiable as the HIE structure becomes standardized and develops a track record of data exchange.

“HIEs will become the mechanisms to inform community coalitions in planning and mobilizing resources, assisting them in doing what they need to do to improve overall health status and reduce health care costs.”

*Liesa Jenkins, Executive Director of Kingsport, Tennessee-based CareSpark. Their mission is to improve health through the collaborative use of health information.*

While some health care organizations already have powerful HIE capabilities and have been exchanging data with their stakeholders, the next challenge is to successfully demonstrate the great value in partnering for the overall health of the community. Private providers have traditionally reported select information to public health entities for analysis and processing. Now, through robust HIEs, public health can feed reported information back to private providers to assist them in treating individual patients, which also supports community disease prevention and health promotion goals. The collaborative network of the HIE shares patient and population information both ways: health care providers provide data to inform public health and public health provides physicians with information about health trends.

Ultimately, an HIE’s strength lies not only in serving as a repository of valuable health information, but in being able to effect changes in individual and community health, primarily through information sharing. So, regardless of whether participating health entities exchange data directly or through an HIE, today’s health information exchanges are beginning to demonstrate that cooperating and employing the principles of such collaboration produce benefits to individuals and society.

“Information systems can play a vital role in improving the health of our communities by helping to pinpoint disease outbreaks, track chronic disease in communities, and improve communication between health care providers and health departments.”

– Stephen Downs, Robert Wood Johnson Foundation

Facilitating Biosurveillance

*Public health has assumed a national defense mission to protect citizens from biological, chemical, and radiological threats to health. Known generally as biosurveillance, this mission requires active linkage between health care delivery and public health at local, state, and federal levels. Health information exchanges facilitate national health defense as well as aid routine disease surveillance.*

*Comprehensive health protection demands a partnership between public health and health care.*

“An HIE allows for direct measurable assessment of the health of the community, leading to population efforts to improve the well-being of the residents. This, in turn, impacts education, the employment base, and the success of businesses - and ultimately creates communities that thrive.”

– Dr. Poki Namkung, MD, MPH, Health Officer, County of Santa Cruz, California, and president of the National Association of County and City Health Officials (NACCHO)

“By actively collaborating, public health has helped change my practice for the better.”

– Neil S. Calman, MD, The Institute for Urban Family Health, Bronx, New York

About InformationLinks

This document was created in partnership with program partners of InformationLinks, a program of the Robert Wood Johnson Foundation. Through InformationLinks, RWJF funded public health agencies to partner with HIEs in their locale. As the convenor of this effort, the Public Health Informatics Institute coordinated a series of site visits and roundtable discussions among public health practitioners and participants in emerging and established HIEs, with the goal of defining the value of public health in the HIE.

About the Public Health Informatics Institute

The Public Health Informatics Institute is dedicated to advancing public health practitioners’ ability to strategically apply and manage information systems. The Institute assists federal, state, and local public health agencies and other public health stakeholders as they address their information systems challenges. The Institute is a component of The Task Force for Child Survival and Development.

About the Robert Wood Johnson Foundation®

The Robert Wood Johnson Foundation focuses on the pressing health and health care issues facing our country. As the nation’s largest philanthropy devoted exclusively to improving the health and health care of all Americans, the Foundation works with a diverse group of organizations and individuals to identify solutions and achieve comprehensive, meaningful, and timely change.

For more information about this publication or the Institute’s work in this area, please contact our Program Director: Ellen Wild, MPH, at ewild@phii.org

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Healthy Partnerships

“Ultimately, an HIE’s strength is not only serving as a repository of valuable health information, but being able to effect change to individual and community health.”

– Dave Ross, Public Health Informatics Institute

**Health Information Exchanges** ~ *in which healthcare stakeholders form a collaborative network to share health information* ~

can help resolve health care costs and medical errors. However, public health is not always involved in the exchange. Does public health data add value to the HIE? Can a partnership between physicians and public health strengthen healthcare? The inclusion of public health agencies and public health data in the design of Health Information Exchanges (HIEs) offers long-term benefits for individual and community health.

Consider the potential for this **Healthy Partnership.**